



## SEQUENCE LISTING

<110> Hotten, Gertrud  
Neidhardt, Helge  
Bechtold, Rolf  
Pohl, Jens

<120> GROWTH/DIFFERENTIATION FACTORS OF THE TGF-B FAMILY

<130> 2923-0286

<140> 09/901,556

<141> 1999-09-24

<150> 08/289,222

<151> 1994-08-12

<150> DE P 44 23 190.3

<151> 1994-07-01

<150> EPO 92102324.8

<151> 1992-02-12

<150> PCT/EP93/00350

<151> 1993-02-12

D2  
<160> 53

<170> PatentIn version 3.1

<210> 1

<211> 1207

<212> DNA

<213> Homo sapiens

<400> 1

accgggcggc cctgaaccca agccaggaca ccctccccaa acaaggcagg ctacagcccg 60

gactgtgacc ccaaaaggac agcttcccg aggcaaggca ccccaaaaag caggatctgt 120

ccccagctcc ttccctgctga agaaggccag ggagcccg ggccacgag agcccaagga 180

gccgtttcgc ccacacccca tcacacccca cgagtacatg ctctcgctgt acaggacgct 240

gtccgatgct gacagaaaagg gaggcaacag cagcgtgaag ttggaggctg gcctggccaa 300

caccatcacc agctttattt acaaaggca agatgaccga ggtcccggtt tcaggaagca 360

JUL 28 2003

TECH CENTER 1600/2900

gaggtaacgtg tttgacatta gtgcctggaa gaaggatggg ctgctggggg ccgagctgcg 420  
gatcttgcgg aagaagccct cggacacggc caagccagcg gccccccggag gcgggcgggc 480  
tgcccagctg aagctgtcca gctgccccag cggccggcag ccggcctcct tgctggatgt 540  
gcgcgtccgtg ccaggcctgg acggatctgg ctgggaggtg ttgcacatct ggaagctctt 600  
ccgaaaacttt aagaactcgg cccagctgtg cctggagctg gaggcctggg aacggggcag 660  
ggccgtggac ctccgtggcc tgggcttcga ccgcgccgccc cggcaggtcc acgagaaggc 720  
cctgttcctg gtgttggcc gcaccaagaa acgggacctg ttcttaatg agattaaggc 780  
ccgctctggc caggacgata agaccgtgt tgagtacctg ttcaagccagc ggcgaaaacg 840  
gcggggccca ctggccactc gccaggcaca gcgcaccagc aagaacctta aggctcgctg 900  
cagtcggaag gcactgcattc tcaacttcaa ggacatggc tgggacgact ggatcatcgc 960  
acccttgag tacgaggctt tccactgcga gggctgtgc gagttccat tgcgtccca 1020  
cctggagccc acgaatcatg cagtcattca gaccctgatg aactccatgg accccgagtc 1080  
cacaccaccc acctgctgtg tgcccacgcg gctgagtcac atcagcatcc ttttcattga 1140  
ctctgccaac aacgtggtgt ataaggcagta tgaggacatg gtcgtggagt cgtgtggctg 1200  
cagtag 1207

<210> 2

<211> 2272

<212> DNA

<213> Homo sapiens

<400> 2  
caaggagcca tgccagctgg acacacactt cttccaggc ctctggcagc caggacagag 60  
ttgagaccac agctgtttag accctgagcc ctgagtctgt attgctcaag aagggccttc 120  
cccagcaatg acctcctcat tgcttctggc ctttctcctc ctggctccaa ccacagtggc 180  
cactcccaga gctggcggtc agtgtccagc atgtgggggg cccaccttgg aactggagag 240  
ccagcgggag ctgcttcttg atctggccaa gagaagcatc ttggacaagc tgcacctcac 300  
ccagcggccca acactgaacc gcccgtgtc cagagctgct ttgaggactg cactgcagca 360  
cctccacggg gtcccacagg gggcacttct agaggacaac agggAACAGG aatgtgaaat 420

catcagctt gctgagacag gcctctccac catcaaccag actcgcttg atttcactt	480
ctcctctgat agaactgctg gtgacaggga ggtccagcag gccagtctca tggctttgt	540
gcagctccct tccaataccca cttggacctt gaaagtgaga gtccttgtgc tgggtccaca	600
taataccaac ctcacccctgg ctactcagta cctgctggag gtggatgcc a tggctggca	660
tcaactcccc ctagggcctg aagctcaagc tgcctgcagc caggggcacc tgaccctgga	720
gctggtactt gaaggccagg tagcccagag ctca gtcatc ctgggtggag ctgcccata	780
gcctttgtg gcagccccc tgagagttgg gggcaa acac cagattcacc gacgaggcat	840
cgactgccaa ggagggtcca ggatgtgctg tcgacaagag tttttgtgg acttccgtga	900
gattggctgg cacgactgga tcatccagcc tgagggctac gccatgaact tctgcata	960
gcagtgc cca ctacacatag caggcatgcc tggtattgct gcctccttc acactgcagt	1020
gctcaatctt ctcaaggcca acacagctgc aggca ccact ggagggggct catgctgtgt	1080
acccacggcc cggcgcccc tgc tctgct ctattatgac agggacagca acattgtcaa	1140
gactgacata cctgacatgg tagtagaggc ctgtgggtgc agtt agtcta tgtgtggtat	1200
gggcagccca aggttgcatg ggaaaacacg cccctacaga agtgcacttc cttgagagga	1260
gggaatgacc tcattctctg tccagaatgt ggactccctc ttccctgagca tcttatggaa	1320
attacccac ctttgacttg aagaaacctt catctaaagc aagtca ctgt gtcactgt gccatcttcc	1380
tgaccactac cctcttcctt agggcatagt ccattccgct agtccatccc gctagccca	1440
ctccaggac tcagacccat ctccaaccat gagcaatgcc atctggcc caggcaaaga	1500
cacccttagc tcaccttaa tagacccat aaccactat gccttcgt cctttctact	1560
caatggccc cactccaaga .tgagttgaca caaccccttc ccccaatttt tgtggatctc	1620
cagagaggcc cttcttgga ttccacaaag tttagatcac tgctgccaa aatagaggct	1680
tacctaccc cctcttggtt gtgagccctt gtccttcttta gttgtccagg tgaactacta	1740
aagctctctt tgcatacctt catccatttt ttgtccttct ctgccttctt ctatgcctt	1800
aagggtgac ttgcctgagc tctatcacct gagctccctt gccctctggc ttccctgctga	1860
ggtcaggc a ttcttatcc ctgttccctc tctgtctagg tgtcatggtt ctgtgtact	1920
gtggctattc tgc tcccta cactacctgg ctacccctt ccatggccccc agctctgcct	1980
acattctgat ttttttttt ttttttttt tgaaaagttt aaaaattcctt aat tttttat	2040
tcctggta cc actaccacaa ttacagggc aatatacctg atgtaatgaa aaaaaaaaaga	2100

aaaagacaaa gctacaacag ataaaagacc tcaggaatgt acatctaatt gacactacat 2160  
tgcattaatc aatagctgca cttttgcaa actgtggcta tgacagtcc gaacaagaag 2220  
ggttcctgt ttaagctgca gtaactttc tgactatgga tcatcggtcc tt 2272

<210> 3

<211> 401

<212> PRT

<213> Homo sapiens

<400> 3

Pro Gly Gly Pro Glu Pro Lys Pro Gly His Pro Pro Gln Thr Arg Gln  
1 5 10 15

Ala Thr Ala Arg Thr Val Thr Pro Lys Gly Gln Leu Pro Gly Gly Lys  
20 25 30

Ala Pro Pro Lys Ala Gly Ser Val Pro Ser Ser Phe Leu Leu Lys Lys  
35 40 45

Ala Arg Glu Pro Gly Pro Pro Arg Glu Pro Lys Glu Pro Phe Arg Pro  
50 55 60

Pro Pro Ile Thr Pro His Glu Tyr Met Leu Ser Leu Tyr Arg Thr Leu  
65 70 75 80

Ser Asp Ala Asp Arg Lys Gly Gly Asn Ser Ser Val Lys Leu Glu Ala  
85 90 95

Gly Leu Ala Asn Thr Ile Thr Ser Phe Ile Asp Lys Gly Gln Asp Asp  
100 105 110

Arg Gly Pro Val Val Arg Lys Gln Arg Tyr Val Phe Asp Ile Ser Ala  
115 120 125

Leu Glu Lys Asp Gly Leu Leu Gly Ala Glu Leu Arg Ile Leu Arg Lys  
130 135 140

Lys Pro Ser Asp Thr Ala Lys Pro Ala Ala Pro Gly Gly Arg Ala

145

150

155

160

Ala Gln Leu Lys Leu Ser Ser Cys Pro Ser Gly Arg Gln Pro Ala Ser  
165 170 175

Leu Leu Asp Val Arg Ser Val Pro Gly Leu Asp Gly Ser Gly Trp Glu  
180 185 190

Val Phe Asp Ile Trp Lys Leu Phe Arg Asn Phe Lys Asn Ser Ala Gln  
195 200 205

Leu Cys Leu Glu Leu Glu Ala Trp Glu Arg Gly Arg Ala Val Asp Leu  
210 215 220

Arg Gly Leu Gly Phe Asp Arg Ala Ala Arg Gln Val His Glu Lys Ala  
225 230 235 240

Leu Phe Leu Val Phe Gly Arg Thr Lys Lys Arg Asp Leu Phe Phe Asn  
245 250 255

Glu Ile Lys Ala Arg Ser Gly Gln Asp Asp Lys Thr Val Tyr Glu Tyr  
260 265 270

Leu Phe Ser Gln Arg Arg Lys Arg Arg Ala Pro Leu Ala Thr Arg Gln  
275 280 285

Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala Arg Cys Ser Arg Lys Ala  
290 295 300

Leu His Val Asn Phe Lys Asp Met Gly Trp Asp Asp Trp Ile Ile Ala  
305 310 315 320

Pro Leu Glu Tyr Glu Ala Phe His Cys Glu Gly Leu Cys Glu Phe Pro  
325 330 335

Leu Arg Ser His Leu Glu Pro Thr Asn His Ala Val Ile Gln Thr Leu  
340 345 350

Met Asn Ser Met Asp Pro Glu Ser Thr Pro Pro Thr Cys Cys Val Pro  
355 360 365

Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe Ile Asp Ser Ala Asn Asn  
370 375 380

Val Val Tyr Lys Gln Tyr Glu Asp Met Val Val Glu Ser Cys Gly Cys  
385 390 395 400

Arg

<210> 4

<211> 352

<212> PRT

<213> Homo sapiens

<400> 4

Met Thr Ser Ser Leu Leu Leu Ala Phe Leu Leu Leu Ala Pro Thr Thr  
1 5 10 15

Val Ala Thr Pro Arg Ala Gly Gly Gln Cys Pro Ala Cys Gly Gly Pro  
20 25 30

Thr Leu Glu Leu Glu Ser Gln Arg Glu Leu Leu Leu Asp Leu Ala Lys  
35 40 45

Arg Ser Ile Leu Asp Lys Leu His Leu Thr Gln Arg Pro Thr Leu Asn  
50 55 60

Arg Pro Val Ser Arg Ala Ala Leu Arg Thr Ala Leu Gln His Leu His  
65 70 75 80

Gly Val Pro Gln Gly Ala Leu Leu Glu Asp Asn Arg Glu Gln Glu Cys  
85 90 95

Glu Ile Ile Ser Phe Ala Glu Thr Gly Leu Ser Thr Ile Asn Gln Thr  
100 105 110

Arg Leu Asp Phe His Phe Ser Ser Asp Arg Thr Ala Gly Asp Arg Glu  
115 120 125

Val Gln Gln Ala Ser Leu Met Phe Phe Val Gln Leu Pro Ser Asn Thr

130

135

140

Thr Trp Thr Leu Lys Val Arg Val Leu Val Leu Gly Pro His Asn Thr  
145 150 155 160

Asn Leu Thr Leu Ala Thr Gln Tyr Leu Leu Glu Val Asp Ala Ser Gly  
165 170 175

Trp His Gln Leu Pro Leu Gly Pro Glu Ala Gln Ala Ala Cys Ser Gln  
180 185 190

Gly His Leu Thr Leu Glu Leu Val Leu Glu Gly Gln Val Ala Gln Ser  
195 200 205

Ser Val Ile Leu Gly Gly Ala Ala His Arg Pro Phe Val Ala Ala Arg  
210 215 220

Val Arg Val Gly Gly Lys His Gln Ile His Arg Arg Gly Ile Asp Cys  
225 230 235 240

Gln Gly Gly Ser Arg Met Cys Cys Arg Gln Glu Phe Phe Val Asp Phe  
245 250 255

Arg Glu Ile Gly Trp His Asp Trp Ile Ile Gln Pro Glu Gly Tyr Ala  
260 265 270

Met Asn Phe Cys Ile Gly Gln Cys Pro Leu His Ile Ala Gly Met Pro  
275 280 285

Gly Ile Ala Ala Ser Phe His Thr Ala Val Leu Asn Leu Leu Lys Ala  
290 295 300

Asn Thr Ala Ala Gly Thr Thr Gly Gly Ser Cys Cys Val Pro Thr  
305 310 315 320

Ala Arg Arg Pro Leu Ser Leu Leu Tyr Tyr Asp Arg Asp Ser Asn Ile  
325 330 335

Val Lys Thr Asp Ile Pro Asp Met Val Val Glu Ala Cys Gly Cys Ser  
340 345 350

<210> 5  
<211> 265  
<212> DNA  
<213> Homo sapiens

<400> 5  
catccagcct gagggctacg ccatgaactt ctgcataagg cagtgccac tacacatagc 60  
aggcatgcct ggtattgctg ctcctttca cactgcagtg ctaatcttc tcaaggccaa 120  
cacagctgca ggcaccactg gaaaaaaatc atgcgtgtta cccacggccc ggccccct 180  
gtctctgctc tattatgaca gggacagcaa cattgtcaag actgacatac ctgacatgg 240  
atgttagggcc tgtgggtgca gttag 265

<210> 6  
<211> 139  
<212> DNA  
<213> Homo sapiens

<400> 6  
catcgacccc cttgagttacg aggctttcca ctgcgagggg ctgtgcgagt tcccatggcg 60  
ctcccacctg gagcccacga atcatgcagt catccagacc ctgatgaact ccatggaccc 120  
cgagtccaca ccacccacc 139

<210> 7  
<211> 27  
<212> DNA  
<213> Homo sapiens

<400> 7  
atgaactcca tggaccccgaa gtccaca 27

<210> 8  
<211> 30  
<212> DNA  
<213> Homo sapiens

<400> 8  
cttctcaagg ccaacacagc tgcaggcacc 30

<210> 9  
<211> 9  
<212> PRT  
<213> Homo sapiens  
<400> 9

Met Asn Ser Met Asp Pro Glu Ser Thr  
1 5

<210> 10  
<211> 10  
<212> PRT  
<213> Homo sapiens  
<400> 10

Leu Leu Lys Ala Asn Thr Ala Ala Gly Thr  
1 5 ~ 10

<210> 11  
<211> 44  
<212> DNA  
<213> artificial sequence  
<220>  
<223> oligodT (16 residues) linked to adapter primer  
<400> 11  
agaattcgca tgccatggtc gacgaagctt tttttttttt tttt 44

<210> 12  
<211> 24  
<212> DNA

<213> artificial sequence

<220>

<223> adaptor primer

<400> 12

agaattcgca tgccatggtc gacg

24

<210> 13

<211> 24

<212> DNA

<213> Homo sapiens

<400> 13

ggctacgcca tgaacttctg cata

24

<210> 14

<211> 24

<212> DNA

<213> Homo sapiens

<400> 14

acatagcagg catgcctggt attg

24

<210> 15

<211> 23

<212> DNA

<213> Homo sapiens

<400> 15

cttgagtacg aggcttcca ctg

23

<210> 16

<211> 24

<212> DNA

<213> artificial sequence

<220>

<223> nested adaptor primer

<400> 16  
attcgcatgc catggtcgac gaag 24

<210> 17

<211> 23

<212> DNA

<213> Homo sapiens

<400> 17  
ggagcccacg aatcatgcag tca 23

<210> 18

<211> 23

<212> DNA

<213> Homo sapiens

<400> 18  
acagcaggtg ggtggtgtgg act 23

<210> 19

<211> 20

<212> DNA

<213> Homo sapiens

<400> 19  
ccagcagccc atccttctcc 20

<210> 20

<211> 24

<212> DNA

<213> Homo sapiens

<400> 20  
tccagggcac taatgtcaaa cacg 24

<210> 21  
<211> 24  
<212> DNA  
<213> Homo sapiens  
<400> 21  
actaatgtca aacacgtacc tctg

24

<210> 22  
<211> 102  
<212> PRT  
<213> Homo sapiens  
<400> 22

Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp Asp  
1 5 10 15

Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu Gly  
20 25 30

Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His Ala  
35 40 45

Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro Pro  
50 55 60

Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe Ile  
65 70 75 80

Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val Val  
85 90 95

Glu Ser Cys Gly Cys Arg  
100

<210> 23

<211> 101

<212> PRT

<213> Homo sapiens

<400> 23

Cys Lys Arg His Pro Leu Tyr Val Asp Phe Ser Asp Val Gly Trp Asn  
1 5 10 15

Asp Trp Ile Val Ala Pro Pro Gly Tyr His Ala Phe Tyr Cys His Gly  
20 25 30

Glu Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala  
35 40 45

Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Lys Ile Pro Lys Ala  
50 55 60

Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp  
65 70 75 80

Glu Asn Glu Lys Val Val Leu Lys Asn Tyr Gln Asp Met Val Val Glu  
85 90 95

Gly Cys Gly Cys Arg  
100

<210> 24

<211> 101

<212> PRT

<213> Homo sapiens

<400> 24

Cys Arg Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val Gly Trp Asn  
1 5 10 15

Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr Cys His Gly  
20 25 30

Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala

35

40

45

Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile Pro Lys Ala  
50 55 60

Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp  
65 70 75 80

Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu Met Val Val Glu  
85 90 95

Gly Cys Gly Cys Arg  
100

<210> 25

<211> 102

<212> PRT

<213> Homo sapiens

<400> 25

Cys Lys Lys His Glu Leu Tyr Val Ser Phe Arg Asp Leu Gly Trp Gln  
1 5 10 15

Asp Trp Ile Ile Ala Pro Glu Gly Tyr Ala Ala Phe Tyr Cys Asp Gly  
20 25 30

Glu Cys Ser Phe Pro Leu Asn Ala His Met Asn Ala Thr Asn His Ala  
35 40 45

Ile Val Gln Thr Leu Val His Leu Met Phe Pro Asp His Val Pro Lys  
50 55 60

Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile Ser Val Leu Tyr Phe  
65 70 75 80

Asp Asp Ser Ser Asn Val Ile Leu Lys Lys Tyr Arg Asn Met Val Val  
85 90 95

Arg Ser Cys Gly Cys His  
100

<210> 26

<211> 102

<212> PRT

<213> Homo sapiens

<400> 26

Cys Arg Lys His Glu Leu Tyr Val Ser Phe Gln Asp Leu Gly Trp Gln  
1 5 10 15

Asp Trp Ile Ile Ala Pro Lys Gly Tyr Ala Ala Asn Tyr Cys Asp Gly  
20 25 30

Glu Cys Ser Phe Pro Leu Asn Ala His Met Asn Ala Thr Asn His Ala  
35 40 45

Ile Val Gln Thr Leu Val His Leu Met Asn Pro Glu Tyr Val Pro Lys  
50 55 60

Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile Ser Val Leu Tyr Phe  
65 70 75 80

Asp Asp Asn Ser Asn Val Ile Leu Lys Lys Tyr Arg Asn Met Val Val  
85 90 95

Arg Ala Cys Gly Cys His  
100

<210> 27

<211> 102

<212> PRT

<213> Homo sapiens

<400> 27

Cys Lys Lys His Glu Leu Tyr Val Ser Phe Arg Asp Leu Gly Trp Gln  
1 5 10 15

Asp Trp Ile Ile Ala Pro Glu Gly Tyr Ala Ala Tyr Tyr Cys Glu Gly

20

25

30

Glu Cys Ala Phe Pro Leu Asn Ser Tyr Met Asn Ala Thr Asn His Ala  
35 40 45

Ile Val Gln Thr Leu Val His Phe Ile Asn Pro Glu Thr Val Pro Lys  
50 55 60

Pro Cys Cys Ala Pro Thr Gln Leu Asn Ala Ile Ser Val Leu Tyr Phe  
65 70 75 80

Asp Asp Ser Ser Asn Val Ile Leu Lys Lys Tyr Arg Asn Met Val Val  
85 90 95

Arg Ala Cys Gly Cys His  
100

<210> 28

<211> 106

<212> PRT

<213> Homo sapiens

<400> 28

Cys Cys Arg Gln Glu Phe Phe Val Asp Phe Arg Glu Ile Gly Trp His  
1 5 10 15

Asp Trp Ile Ile Gln Pro Glu Gly Tyr Ala Met Asn Phe Cys Ile Gly  
20 25 30

Gln Cys Pro Leu His Ile Ala Gly Met Pro Gly Ile Ala Ala Ser Phe  
35 40 45

His Thr Ala Val Leu Asn Leu Leu Lys Ala Asn Thr Ala Ala Gly Thr  
50 55 60

Thr Gly Gly Ser Cys Cys Val Pro Thr Ala Arg Arg Pro Leu Ser  
65 70 75 80

Leu Leu Tyr Tyr Asp Arg Asp Ser Asn Ile Val Lys Thr Asp Ile Pro  
85 90 95

Asp Met Val Val Glu Ala Cys Gly Cys Ser  
100 105

<210> 29

<211> 106

<212> PRT

<213> Homo sapiens

<400> 29

Cys Cys Lys Lys Gln Phe Phe Val Ser Phe Lys Asp Ile Gly Trp Asn  
1 5 10 15

Asp Trp Ile Ile Ala Pro Ser Gly Tyr His Ala Asn Tyr Cys Glu Gly  
20 25 30

Glu Cys Pro Ser His Ile Ala Gly Thr Ser Gly Ser Ser Leu Ser Phe  
35 40 45

His Ser Thr Val Ile Asn His Tyr Arg Met Arg Gly His Ser Pro Phe  
50 55 60

Ala Asn Leu Lys Ser Cys Cys Val Pro Thr Lys Leu Arg Pro Met Ser  
65 70 75 80

Met Leu Tyr Tyr Asp Asp Gly Gln Asn Ile Ile Lys Lys Asp Ile Gln  
85 90 95

Asn Met Ile Val Glu Glu Cys Gly Cys Ser  
100 105

<210> 30

<211> 105

<212> PRT

<213> Homo sapiens

<400> 30

Cys Cys Arg Gln Gln Phe Phe Ile Asp Phe Arg Leu Ile Gly Trp Asn

1

5

10

15

Asp Trp Ile Ile Ala Pro Thr Gly Tyr Tyr Gly Asn Tyr Cys Glu Gly  
20 25 30

Ser Cys Pro Ala Tyr Leu Ala Gly Val Pro Gly Ser Ala Ser Ser Phe  
35 40 45

His Thr Ala Val Val Asn Gln Tyr Arg Met Arg Gly Leu Asn Pro Gly  
50 55 60

Thr Val Asn Ser Cys Cys Ile Pro Thr Lys Leu Ser Thr Met Ser Met  
65 70 75 80

Leu Tyr Phe Asp Asp Glu Tyr Asn Ile Val Lys Arg Asp Val Pro Asn  
85 90 95

Met Ile Val Glu Glu Cys Gly Cys Ala  
100 105

<210> 31

<211> 105

<212> PRT

<213> Homo sapiens

<400> 31

Cys His Arg Val Ala Leu Asn Ile Ser Phe Gln Glu Leu Gly Trp Glu  
1 5 10 15

Arg Trp Ile Val Tyr Pro Pro Ser Phe Ile Phe His Tyr Cys His Gly  
20 25 30

Gly Cys Gly Leu His Ile Pro Pro Asn Leu Ser Leu Pro Val Pro Gly  
35 40 45

Ala Pro Pro Thr Pro Ala Gln Pro Tyr Ser Leu Leu Pro Gly Ala Gln  
50 55 60

Pro Cys Cys Ala Ala Leu Pro Gly Thr Met Arg Pro Leu His Val Arg  
65 70 75 80

Thr Thr Ser Asp Gly Gly Tyr Ser Phe Lys Tyr Glu Thr Val Pro Asn  
85 90 95

Leu Leu Thr Gln His Cys Ala Cys Ile  
100 105

<210> 32

<211> 36

<212> DNA

<213> artificial sequence

<220>

<223> OD PCR amplification primer

<400> 32

atgaattccc atggacacctgg gctggmakga mtggat

36

<210> 33

<211> 22

<212> DNA

<213> Homo sapiens

<400> 33

acgtggggtg gaatgactgg at

22

<210> 34

<211> 22

<212> DNA

<213> Homo sapiens

<400> 34

atattggctg gagtgaatgg at

22

<210> 35

<211> 22

<212> DNA  
<213> Homo sapiens  
<400> 35  
atgtggcctg gaatgactgg at 22

<210> 36  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 36  
acctggcctg gcaggactgg at 22

<210> 37  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 37  
aggacctcggt ctggaagtgg at 22

<210> 38  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 38  
gggatctagg gtggaaatgg at 22

<210> 39  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 39  
aggatctggg ctggaagtgg gt 22

<210> 40  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 40  
agctggctg ggaacgggtgg at 22

<210> 41  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 41  
acatcggttg gaatgactgg at 22

<210> 42  
<211> 22  
<212> DNA  
<213> Homo sapiens  
<400> 42  
tcatcggttg gaacgactgg at 22

<210> 43  
<211> 29  
<212> DNA  
<213> artificial sequence  
<220>  
<223> OID PCR amplification primer  
<400> 43  
atgaattcga gctgcgtsgg srcacagca 29

<210> 44

<211> 21  
<212> DNA  
<213> Homo sapiens  
<220>  
<223> oligodT (16 residues) linked to adapter primer

<400> 44  
gagttctgtc gggacacagc a 21

<210> 45  
<211> 21  
<212> DNA  
<213> Homo sapiens  
<400> 45  
catcttttctt ggtacacacgc a 21

<210> 46  
<211> 21  
<212> DNA  
<213> Homo sapiens  
<400> 46  
cagttcagtg ggcacacacaac a 21

<210> 47  
<211> 21  
<212> DNA  
<213> Homo sapiens  
<400> 47  
gagctgcgtg ggcgcacagc a 21

<210> 48  
<211> 21

<212> DNA

<213> Homo sapiens

<400> 48

cagcgcctgc ggcacgcagc a

21

<210> 49

<211> 21

<212> DNA

<213> Homo sapiens

<400> 49

ttaaatcttgg gacacgcagc a

21

<210> 50

<211> 21

<212> DNA

<213> Homo sapiens

<400> 50

caggtcctgg ggcacgcagc a

21

<210> 51

<211> 21

<212> DNA

<213> Homo sapiens

<400> 51

ccctgggaga gcagcacagc a

21

<210> 52

<211> 21

<212> DNA

<213> Homo sapiens

<400> 52

cagcttggtg ggcacacagc a

21

<210> 53

<211> 21

<212> DNA

<213> Homo sapiens

D2 <400> 53

cagcttggtg ggaatgcagc a

21